Rules of the Categorial Component in Punjabi
GURKIRPAL SINGH SEKHON

The credentials of one associated with the teaching of English participating in a seminar on Punjabi Grammar must be suspect. Therefore, an intrusion of the sort calls for explanation. I lay no claim to academic pretensions in Punjabi, but my work in English, which involved a contrastive study of Punjabi and English, forced me to look for grammars of Punjabi written within the framework of one or the other linguistic models currently in use. It was a vain effort for the most part, since Punjabi linguistic schoars, despite their proclamations to the contrary, have paid scant heed to writing Punjabi Grammars. My effort was not altogether vain, as I did find something which could be called Punjabi Transformational Grammar. I was naturally attracted since I had already chosen the transformational model for my study. I am pointing to "Roopantri Vyakaran" published in 1970 and *Roopantri Vyakran* published in 1980, both by Harkirat Singh, written after Chomsky's *Syntactic Structures*. The first of these is an article in *Pàkha Sanjam*, and the second is a fulfledged book commissioned by Punjab State University Text Book Board. Harkirat Singh has additionally published "Phrase Structure Rules in Punjabi", again in *Pàkha Sanjam*. A couple of points concerning all these publications call for comment. Irrespective of their date of writing, they present essentially the same information. *Roopantri Vyakaran* of 1980 is substantially the same as "Roopantri Vyakaran" of 1970. The difference of a decade between their publications has not induced any fresh thinking in the author's approach. It will not be too unfair to say that the subsequent book is a rehash of the earlier paper. The next point to observe is that "Roopantri Vyakaran" written in as late as 1970 is practically oblivious of drastic modifications made by Chomsky in the Original Theory (of *Syntactic Structures*) as is evident from his *Aspects of the Theory of Syntax* published in 1965. What needs to be emphasised is that these publications by Harkirat Singh are based on the Original Theory. The next point to attract our attention in the publications under consideration is that some of the Phrase Structure Rules of Punjabi as developed here are deficient in several ways. Let me give two examples :

One of Harkirat Singh's PS Rules reads

$$\text{Det} \longrightarrow \left\{ \begin{array}{l} \text{Dem} \\ \text{Gen} \\ \text{Ind} \\ \text{Num} \\ \text{Adj} \end{array} \right\}$$

which means that Det can be rewritten as *either* Dem *or* Gen *or* Ind *or* Num *or* Adj, all of which are assumed to be alternatives of one another. Now the structure of Punjabi NP being what it is, more than one of these categories can be simultaneously chosen. In

Usde pᵊj kimti rUmal

his five expensive hankies

we find Gen Num Adj co-occurring, but PS Rule given above fails to capture the co-occurrence relations among these categories. There is more serious trouble with this rule as it includes Adj as one of the choices while a simpler way would have been to generate Adj NP structure transformationally from the following string :

Det N Adj *ho* Tense.

Retention of the Det rewriting rule with Adj in it, as also including Adj in the string given above militates against the principles of economy and simplicity in grammar.

The PS Rule concerning Aux is more messy. In Harkirat Singh's scheme of things, Aux is dominated by verbs V_t, V_1, or V_o, unlike its domination by VP, a higher category. This treatment is patently wrong in that Aux is not concerned with any of the individual categories mentioned above, as it affects them *all* in the same way. Next, the complexity of Aux has been ignored. Here is his PS Rule for Aux :

$$\text{Aux} \longrightarrow \left\{ \begin{array}{l} \text{Conjunctive Aspect (Future)} \\ \text{Durative Aspect (Tense)} \\ \text{Perfective Aspect (Tense)} \end{array} \right\}$$

$$\text{Tense} \longrightarrow \left\{ \begin{array}{l} \text{Present} \\ \text{Past} \\ \text{Indefinite} \end{array} \right\}$$

Not picking holes in technical terms used above indiosyncratically, Aux and Tense have to be rewritten differently to be comprehensive in their coverage, which should be

$$\text{Aux} \longrightarrow \left\{ \begin{array}{l} \left\{ \begin{array}{l} \text{sᵊk} \\ \text{cŪk} \\ -\text{ɳa p e} \end{array} \right\} \left\{ \begin{array}{l} \text{ve (ga)} \\ \text{da} \\ \text{Ia} \end{array} \right\} \text{(Tense)} \\ \left\{ \begin{array}{l} -\text{ɳa} \\ -\text{ɳa} \\ -\text{r̃a} \end{array} \text{cahida} \right\} \text{Tense} \end{array} \right\}$$

$$\text{Tense} \longrightarrow \left\{ \begin{array}{l} \text{Present} \\ \text{Past} \\ \text{Contingent} \\ \text{Past Contingent} \\ \text{Presumptive} \end{array} \right\}$$

In expanding Tense above, I have followed Kellog. A comparison of the above two sets of rules makes it quite obvious that Harkirat Singh's rules cannot generate the following sentences :

1) ram ja sǝkega (Ram will be able to go)
2) ram ja cUkega (Ram will have gone).
3) ram ja sǝkda he (Ram can go)
4) ram ja sǝkla (Ram could go)
5) ramnữ jaṇa pǝvega (Ram will have to go)
6) ramne jaṇa he (Ram is to go)
7) ramnữ jaṇa cahida he (Ram should go)
8) ram ja rỉa he (Ram is going)

Next, even though Harkirat Singh mentions at least one more form of Tense, his rule provides for three against a possible five.

Not dilating upon Harkirat Singh's PS Rules any more since defects or imperfections in them arise not from the model but from the limitations of the author, we turn our attention to the developments in the transformational theory. There have been rapid advances and changes in the theory of transformational grammar during the last 20 years. The revolution started with Chomsky's *Syntactic Structures* in 1957, now generally referred to as the Original Theory. It had three kinds of rules which were considered enough to explain facts of language. They were

1) Phrase Structure Rules
2) Transformational Rules
3) Morphophonemic Rules.

Note that there is no mention of semantics or meaning. PS rules are essentially 'rewrite rules' whose application generates a terminal string which after the application of transformational rules becomes a Kernel sentence. (Familiarity with 'rewrite rules' will be assumed throughout). Singulary transformations convert simple declarative active sentences into Passives, Negatives, Interrogatives, or Imperatives. Double Base Transformations apply to two strings to generate complex or compound sentences. Limitations of using the Original Theory are obvious. Singulary transformations do affect meaning of kernel sentences, while the professed claim of the Theory is that transformations merely shuffle formatives by adding, deleting, changing the order of formatives in a string or combining various strings without affecting meaning. Secondly the double base transformations or generalised transformations apply to independently generated strings and fail to account for recursive property of language or deeper relationships between affected strings. Lastly there is no device in the Original Theory to block sentences such as

     Colourless green ideas sleep furiously

which are semantically anomalous, even though their structure is flawless.

     A number of linguists worked with this theory and pointed

out its inadequacies, which led Chomsky to reformulate his Theory after drastic modifications. The 1965 version as given in *Aspects of the Theory of Syntax*, now known as the Standard Theory, provides three components :

1) Syntactic Component,
2) Semantic Component,
3) Phonological Component.

Note the most important change : semantics gets a formal though interpretative status. The syntactic component generates deep structure and contains all the information necessary for the semantic interpretation of sentences. The semantic component is interpretative only and provides semantic reading for the whole sentence. The input for the phonological component is the surface structure which results from the application of the transformational rules to the deep structure. The phonological component provides phonetic representation to the surface structure. Thus it is obvious that the syntactic component is the heart of the Standard Theory.

The syntactic component comprises two major parts :

1) Base component
2) Transformational component.

The base generates deep structures and the transformational component converts these into surface structures. The base in its turn consists of

1) Categorial component
2) Lexicon.

The categorial component is a set of ordered rewriting rules which have recursive capacity and generate phrase markers whose terminal elements are grammatical elements and empty categories (Δ) waiting to be filled by complex symbols chosen from the lexicon.

The lexicon comprises (1) *Category features* like [+N], [+V], [+Det], which merely indicate the general category to which a lexical item belongs; (2) *Strict subcategorization features* which provide categorial environment or frame in which lexical items can occur; and (3) *Selection features* which refer to the lexical environment in which a lexical item may occur. *llkh*, 'write' is [+V] as a category and can occur in a phrase marker with an empty category △ dominated by [+V]. The application of strict sub-categorization features will specify for *llkh* a frame of this type : [+NP —] indicating that the verb in question occurs only after an NP object. Selection features will entail that this verb can be used only if the subject NP has [+ human] feature. The Standard Theory, as the theory of the *Aspects* version is called, meets the objections raised against the Original Theory. Yet the matter has not remained static. Attacks on the syntactic component as the heart of the Standard Theory were launched which led to the proposal of parallel theories of Generative Semanticists on the one hand and Case Grammarians on the other. Neotransformationalists clubbed verbs and adjectives together, elimi-

nated copula, and granted independent status to Aux directly dominated by S. Chomsky, in the face of these attacks, twice went in for changes in the Standard Theory. In 1971 he proposed Extended Standard Theory which later was modified as Revised Extended Standard Theory. All these modifications by Chomsky and counter proposals have been academically stimulating and productive indeed. But their appreciation is possible only if we have reasonable knowledge of the Standard Theory as the starting point. Harkirat Singh's work as an introduction to Phrase Structure Rules should be appreciated indeed, though it falls short of the basic need. But the question is whether such a need exists in Punjabi. Probably not. Departments of Punjabi continue to be blissfully ignorant of the current linguistic research going on elsewhere. Here is, therefore, an attempt, albeit belated and meagre, by an outsider to put Transformational Grammar on Punjabi rails, hoping that a debate on the issue will be initiated. Given below are tentative rules of the categorial component of the base in Punjabi. Let us begin with the initial symbol S

$$(1) \quad S \longrightarrow \left\{ (\left\{ \begin{matrix} Imp \\ Q \end{matrix} \right\}) \ (Neg) \ (ADV) \ NP \ VP \right\}^{n \geq 2}$$

Note that n stands for the number of times S can occur. This rule is very powerful and generates co-ordinate sentences as well as imperative, interrogative, negative sentences. Optional ADV under the direct domination of S makes it a sentence modifier and should not be confused with VP modifiers. The problem of singulary transformations operating on a phrase marker to generate Imp, Q, or Neg has been successfully eliminated by finding a berth for them in the categorial rule. Therefore, the question of a transformation changing meaning does not arise.

$$(2) \quad NP \longrightarrow \left\{ \begin{matrix} (Det) \ Noun \\ Pronoun \\ Nominal \end{matrix} \right\} (S)$$

The optional S dominated by NP neatly accounts for all kinds of NP complementation. Nominal is a dummy element leading to nominalization.

$$(3) \quad VP \longrightarrow \left\{ \begin{matrix} Verbal \ Ph & Aux \\ Copular \ Ph & Tense \end{matrix} \right\}$$

Punjabi copula *ho* is problematic and a really satisfactory 'rewriting rule' is wanting. *ho* does not always accept constructions with perfective (*Ia*) or imperfective (*da*) as should be clear from the following sentences :

*ram mũḍa hũḍa hɛ

*ram sóṇa hovega (if understood futuristically).

Since *ho* conjugates directly with Tense without intervening *-Ia* or *-da*, we have tentatively treated the Copular Ph followed by Tense separately from other verbs.

32

(4) Verbal Ph → (Adv) $\left\{\begin{array}{l}\text{(Capabilitive)(Post Ph)(Dative)(NP)}\\ \text{S}\\ \text{Predicate}\end{array}\right\}$ Verb

The optional Adv here is dominated by Verbal Ph, hence it is a modifier of Verbal Ph. S under the direct domination of the Verbal Ph will complementize it after transformations provide complementizers, where necessary. If S appears in Verb Ph but is under the direct domination of NP, it will be an NP complement, not Verbal Ph complement. Capabilitive, if chosen triggers off two kinds of transformations, loosely called passive transformations. Verb is not categorized as V_t, V_1, or V_1 as this aspect is looked after by strict subcategorization features which properly belong with the lexicon. The shifting of such rules to the lexicon has led to greater generalization of categorial component.

(5) Copular Ph → $\left\{\begin{array}{l}\text{Predicate}\\ \text{Adv—p}\end{array}\right\}$ ho

(6) Predicate → $\left\{\begin{array}{l}\text{Adjective}\\ \text{NP } \textit{(vərga)}\end{array}\right\}$

(7) Aux → $\left\{\begin{array}{l}\left\{\begin{array}{l}\left\{\begin{array}{l}\text{sək}\\ \text{cUk}\end{array}\right\}\\ \text{—ṇa pɛ}\end{array}\right\}\ \left\{\begin{array}{l}\text{(ve) ga}\\ \left\{\begin{array}{l}\text{—da}\\ \text{—Ia}\end{array}\right\}\end{array}\right\}\text{ (Tense)}\\ \left\{\begin{array}{l}\text{—ṇ}\\ \text{—ṇa cahida}\\ \text{rìa}\end{array}\right\}\text{ (Tense)}\end{array}\right\}$

The choice of —ṇa pɛ or —ṇa cahida will automatically provide NP dominated by S nũ Postposition..

(8) Tense → $\left\{\begin{array}{l}\text{Present}\\ \text{Past}\\ \text{Contingent}\\ \text{Past Contingent}\\ \text{Presumptive}\end{array}\right\}$

An obligatory transformation would provide ho, if Tense is not immediately preceded by ho in the string.

(9) ADV → $\left\{\begin{array}{l}\text{Adv}\\ \text{S particle}\end{array}\right\}$

(10) Adv → $\left\{\begin{array}{l}\text{Adverb}\\ \text{NP Postposition}\end{array}\right\}$

(11) Noun → △

(12) Det → △

(13) Verb → △

(14) Adjective → △

(15) Adverb → △

I believe that the above categorial rules with some modifications will suffice to generate all kinds of Punjabi strings. But my intention and hope, here, is to set into motion a debate on the need and use of transformational grammars in Punjabi.